

Department of Energy

Washington, DC 20585

September 25, 2024

NOTICE OF FLOODPLAIN ACTION

for

Arizona Public Service Company's Proposed Agave Battery Energy Storage System, Maricopa County, Arizona

The Department of Energy (DOE), Loan Programs Office, is issuing this notice of floodplain action for Arizona Public Service Company's (APS) proposed Agave Battery Energy Storage System (BESS), in Maricopa County, Arizona.

APS has applied for Federal financial assistance for the Agave BESS (Project). DOE has determined that the potential Federal financial assistance for the Project is a floodplain action; therefore, the requirements of 10 Code of Federal Regulations (CFR) 1022 apply.

Pursuant to 10 CFR Part 1022, a 15-day public comment period for this proposed floodplain action commences with publication of this notice and will conclude on October 9, 2024. At the end of the public comment period, DOE will consider all substantive comments received and prepare a floodplain statement of findings.

The floodplain assessment, including a map of the proposed Project site, is attached to this notice.

To submit comments, please email <u>LPO environmental@hq.doe.gov</u>. Please include "Agave BESS" in the subject line. Comments must be received by October 9, 2024.

FLOODPLAIN ASSESSMENT

for

Arizona Public Service Company, Replacing Coal Value with Renewables (ReCoVr)

Agave Battery Energy Storage System

September 24, 2024

Introduction

The entirety of the Agave Battery Energy Storage System (BESS) project site is located within the 500year floodplain. The westernmost portion of Arizona Public Service Company's (APS) property is within the mapped 100-year floodplain; however, no project components would be located in the 100-year floodplain. Unless otherwise noted, this assessment focuses on the 500-year floodplain only.

DOE has determined that the potential Federal financial assistance for the BESS is a floodplain action, therefore, the requirements of 10 CFR 1022 are applicable to the Agave BESS project. The alternatives before DOE include: (1) to provide Federal financial assistance for the BESS; or (2) not provide Federal financial assistance for the BESS. This memo describes LPO's assessment of floodplains pursuant to 10 CFR 1022.

Floodplain Assessment

As defined at 10 CFR 1022.4, *Floodplain action* means any DOE action that takes place in a floodplain, including any DOE action in a wetland that is also within the floodplain. DOE has determined that the BESS is a floodplain action.

Project Description

APS is proposing to construct and install the Agave BESS within the footprint of the existing Agave photovoltaic (PV) solar generating facility, adjacent to the existing Agave substation in Arlington, Arizona (Maricopa County), approximately 50 miles southwest of Phoenix (see Figure 1, attached). The site is surrounded by utility infrastructure including the Sun Streams Solar Plant to the north and east, Redhawk Power Plant to the east, and Mesquite Generating Station to the west. The eastern and southern site boundaries are contiguous to the Hassayampa and Jojoba transmission lines and the Agave PV solar facility, respectively.

APS's existing Agave solar PV project was commissioned during the summer of 2023 and comprises 150 megawatts (MW) of PV generation capacity, located at 36801 W. Southern Pacific Trail, Arlington, AZ 85322. The Agave BESS facility will be located within the current boundary of the Agave solar PV project site and interconnected to the APS's Agave collector substation at the 34.5kV bus. The BESS site is located approximately 1,000 feet west of the current APS Agave solar collector substation, which was pre-engineered to accommodate the Agave BESS Project.

The Agave BESS site will be enclosed within a fence line, and the rows of battery containers will be separated from the fence line and each other by an aggregate rock driving surface with compacted sub-base. The fenced area is approximately 14 acres within which the BESS structures will occupy approximately 7 acres. The driving surface will be a minimum of 20 feet wide and designed for proper drainage and fire department access. The laydown area for Project construction will be located to the north adjacent to the facility within the fence line. Construction of the Project will include grading and minor earthwork (i.e.,

excavation) to allow for placement of Project components. With the exception of the stormwater detention basin (discussed below), the area within the fence line will be elevated 3 feet above the 100-year floodplain; a total of 12.5 acres will be elevated by 3 feet (14 acres less the 1.5-acre detention basin). Fill material for the elevation will come from the onsite stormwater detention basin and, if necessary, supplemented with excess dirt from the nearby Redhawk Power Plant on APS property.

The Agave BESS is a 4-hour duration 150 MW/600 MWh, with the option to install additional storage capacity in the future. The project will use lithium-ion batteries in purpose-built enclosures configured to allow for potential future expansion of energy storage. Major BESS components include:

- 188 battery containers with associated concrete pads (15-foot-long long x 7.5-foot-wide x 9.5-foot-tall container, concrete pads 5.5 feet above floodplain)
- 188 power conversion systems (PCS) with 47 skid-mounted PCS step-up transformers
- 3 auxiliary switchboards
- 1 Energy Management System (EMS) Enclosure
- 1 Uninterruptible Power Supply backup battery system
- 1 backup feed from the grid
- 3 2.6-MVA auxiliary transformers

Each battery container includes fire detection and prevention systems to monitor and respond to battery fires. The balance of plant system includes fire alarm systems to aggregate and communicate site hazards to operators and responders. The water supply for the Agave BESS project construction will be supplied by an existing well that was installed to support the adjacent Redhawk Power Plant and Agave PV Solar facility. There are additional APS wells in the areas that can supplement water as needed.

Agave BESS will be AC-coupled and connected to the existing Agave Substation at 34.5kV. The Agave Substation will step up the voltage to 500kV for the existing Transmission Interconnection. Four new 34.5kV power circuit breakers will be procured and installed for connection to the existing Agave Substation.

AC collector lines (approximately 0.1 mile in length) will be installed underground; trenching will occur in previously disturbed areas to complete the connection to the existing Agave substation, which is located immediately to the east of the Project. The AC collector line corridor consists of approximately 3 acres between the east side of the fence line and the existing substation.

The Project has been designed to conform with applicable floodplain protection standards. A 1.5-acre, 6-foot-deep stormwater detention basin will be constructed within the fence line immediately south of the battery containers to reduce stormwater runoff and to maintain natural hydrology.

Agave BESS has a minimum design life of 20 years based on expected use.

Alternatives

Given proximity to generation and transmission facilities (described above), no siting alternatives are being considered.

Proposed Statement of Findings

Elevating 12.5 acres of the site within the fenceline by three (3) feet above the 100-year floodplain elevation will result in a negligible change to the base flood elevation and flood flows in the surrounding area. In a 500-year flood event, the Project's stormwater detention basin will accommodate some, but not

all, floodwaters displaced by the elevated site. The 3-foot elevation of the site has been designed to protect Project infrastructure from 500-year floodwaters, thereby minimizing effects to Project property and equipment as well as lives and property off-site that are dependent on reliable power. The Project site is located away from urban, residential, and otherwise populated areas. Changes to base flood elevations and flood flows may affect nearby structures, however, none are residences or otherwise occupied (e.g., hospitals, schools) which minimizes potential effects to life and private property.

Supporting Documents

- FEMA FIRM panel 04013C2530
- Agave BESS EPC contract site layout/construction drawing (contains proprietary information, not available for distribution)

Attachments

Figure 1 Agave BESS Project Area and Flood Hazard Zone map





BESS Detention Basin Footprint **BESS Structure Footprint**



-x- Fence Line

Flood Hazard Zone



100-year Flood Zone 500-year Flood Zone



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